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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,635	10/27/2003	Robert Kamenoff	30952_CIP	2632

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EXAMINER

BOATENG, ALEXIS ASIEDUA

ART UNIT PAPER NUMBER

2838

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,635

Applicant(s)

KAMENOFF, ROBERT

Examiner

Alexis Boateng

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/04/03
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

1. Claims 15-16 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. U.S. Patent No. 6900615 in view of Lutz (U.S. 5,834,131).

Claim 1 of U.S. patent 6,900,615 shows all of claim 15 and 16 except for the heater circuit and battery power thereof. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging as Lutz shows at column 3 lines 5-15.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application, which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Lutz (U.S. 5,834,131).

Regarding claim 1, Lutz discloses wherein a self-heating battery for delivering its rated capacity when the battery is below a temperature when available battery capacity is limited comprising:

a battery (figure 2 item 18);

a heating element operatively connected to the battery and powered therefrom for heating the battery (figure 2 item 24);

a temperature sensor for determining the temperature of a battery (figure 2 item 26); and

a switch operatively connected to said heating element and temperature sensor (figure 2 item 36) and responsive to said temperature sensor for switching on the heating element and raising the temperature of the battery to allow the battery to deliver its rated capacity when a sensed temperature of the battery is below a temperature where available capacity is limited (figure 2 item 36; column 4 line 44 – column 5 line15).

Regarding claims 2 and 9, Lutz discloses wherein said switch comprises a transistor switch (figure 2 item 36; column 5 lines 56-58).

Regarding claims 3 and 10, Lutz discloses wherein said switch comprises a field effect transistor (figure 2 item 36; column 5 lines 56-58).

Regarding claim 5, Lutz discloses wherein a load current sensing circuit connected to said heating element for controlling operations of heating element and preventing the battery from discharging when the battery is stored at cold temperatures (figure 2 item 40).

Regarding claim 6, Lutz discloses wherein said load current sensing circuit comprises a switch operatively connected to said heating element and

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responsive to load conditions (figure 2 item 40: figure 2 shows wherein the load current is connected to a switch which is connected to the heating element).

Regarding claim 8, Lutz discloses wherein said switch is responsive to load conditions is operative with said switch responsive to said temperature sensing (column 4 lines 44 – column 5 lines 47).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) and Matsuyama (U.S. 2001/0004198) in view of Rosenbluth (U.S. 5,710,507).

Regarding claims 4 and 19, neither Lutz nor Matsuyama do not disclose wherein the system comprises a comparator having an output connected to said switch and inputs connected to said temperature sensor for comparing temperature differential and turning the switch on and off and controlling operation of the heating element. Rosenbluth discloses in figure item 245, a comparator connected to item 230, a temperature transducer and item 270, a FET, which acts as a switch. Rosenbluth further discloses in column 6 lines 8-33 wherein the FET controls the heating element. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz and

Matsuyama system so that if the battery temperature falls below some minimum level, it can be accurately monitored and heat can be effectively provided to the battery at the proper time.

5. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) in view of Matsuyama (U.S. 2001/0004198).

Regarding claims 11 and 12, Lutz does not disclose wherein a battery discharging circuit connected to said battery for discharging the battery. Lutz also does not further disclose wherein a light sensing circuit operatively connected to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. Matsuyama discloses in figure 3 wherein a battery discharge circuit, item 7, operative with the battery that when actuated, discharges the battery. In figure 3, Matsuyama further discloses wherein a light sensing circuit, solar panel item 4, operatively connected to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the Matsuyama system so that discharging is regulated and so that an alternate method of regulated discharge is provided with the solar panel.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) and Matsuyama (U.S. 2001/0004198) in view of McGrath (U.S. 5,939,865).

Regarding claim 13 and 22, neither Lutz nor Matsuyama do not disclose wherein the system further comprises a charge protection circuit operatively connected to said battery for limiting damage to the battery during charging.

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McGrath discloses in figure 4 item 9, wherein an overcharge protection circuit is implemented during charging. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz system with the McGrath system, so that battery is not overcharged which can damage the battery.

7. Claims 14 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lutz (U.S. 5,834,131) and Matsuyama (U.S. 2001/0004198) in view of Okutoh (U.S. 5,853,908).

Regarding claims 14 and 23, neither Lutz nor Matsuyama discloses wherein the system comprises a flying cell circuit operatively connected to said battery for meeting open circuit an cut-off voltage requirements. Okutoh discloses in figure 1 item 1 wherein an extra cell is employed when there is an over-voltage detected. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Lutz and the Matsuyama system so that the battery is protected from over-voltage and the battery life is extended.

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama (U.S. 2001/0004198) in view of Lutz (U.S. 5,834,131).

Regarding claim 15, Matsuyama discloses in figure 3 wherein a battery discharge circuit, item 7, operative with the battery that when actuated, discharges the battery. In paragraph [0050], [0051] and in figure 3, Matsuyama further discloses wherein a light sensing circuit, solar panel item 4, operatively connected to the power supply interface, which then connects to the battery discharge circuit that actuates the battery discharge circuit after exposing to light the light sensing circuit. Matsuyama discloses the claim as previously claimed,

but does not disclose wherein a battery heater circuit for raising temperature of the battery to allow the battery to deliver its rated capacity when a sensed temperature of the battery is below a temperature where available battery capacity is limited. Lutz discloses in figure 2 item 24 a heating element for raising the temperature in the battery. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging.

Regarding claim 16, Matsuyama does not disclose wherein said battery heater circuit is powered from the battery. Lutz discloses in figure 2 wherein the heating element, item 24 is powered by item 18, the battery. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging.

Regarding claim 17, Matsuyama does not disclose wherein said battery heater circuit comprises a heating element, temperature sensor, and a switch connected to the temperature sensor and the heating element and responsive to the temperature sensor for switching the heating element into operation. Lutz discloses in figure 2, the battery heater comprises a heating element, item 24, the temperature sensor, item 26, and a switch, item 2, which switches the heating element into operation. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging.

Regarding claim 18, Matsuyama does not disclose wherein said switch comprises a transistor switch. Lutz discloses in figure 2 item 36 and in column 56-58 wherein the switch is connected to the heating element. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging.

Regarding claim 20, Matsuyama does not disclose wherein a load current sensing circuit connected to said heating element for controlling operations of heating element and preventing the battery from discharging when the battery is stored at cold temperatures. Lutz discloses in figure 2 item 40 wherein the current sensor is connected to the heating element and controls operations of the heating element. At the time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama system with the Lutz system so that the batteries' temperature is warmed up enough to ensure proper charging.

9. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuyama (U.S. 2001/0004198) in view of Lutz (U.S. 5,834,131) and in further view of Sasaki (U.S. 6,335,611).

Regarding claim 21, neither Matsuyama nor Lutz discloses the contents of the claim. Sasaki discloses in figure 1 items 12, 14, and 17 respectively show a load current sensing circuit comprising a switch, load sensing, device and a comparator, which has inputs operatively connected to said load sensing device and an output operatively connected to said switch for controlling operation of said switch and battery heater circuit based on sensed load conditions. At the

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time of invention, it would have been obvious to a person of ordinary skill in the art to modify the Matsuyama and the Lutz system with the Sasaki system so that the current can be effectively monitored to prevent the battery from damaging overcharge.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexis Boateng whose telephone number is (571) 272-5979. The examiner can normally be reached on 8:30 am - 6:00 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on (571) 272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AB


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PRIMARY EXAMINER